Appendix 2

Category of Risk By Response Zone

Station	Zone	Low	Moderate	Significant	Maximum	Total
1	1	104	203	87	2	396
4	2	546	1,612	114	0	2,272
4	3	171	1,069	10	1	1,251
5	4	370	2,142	23	0	2,535
1	5	207	278	15	0	500
6	6	225	472	128	1	826
1	7	278	709	79	0	1,066
2	8	182	405	80	0	667
2	9	498	765	26	0	1289
2	10	80	191	57	0	328
6	11	167	658	54	0	879
6	12	405	1,118	54	0	1,577
6	13	96	117	49	0	262
6	14	220	874	57	0	1,151
6	15	90	164	13	0	267
7	16	143	463	10	0	616
5	17	226	480	4	0	710
7	18	343	1,603	49	0	1,995
7	19	144	654	36	0	834
3	20	22	248	3	0	273
3	21	314	2,688	44	0	3,046
3	22	14	13	36	0	63
3	23	208	1,565	70	0	1,843
8	24	228	1,871	15	0	2,114
8	25	334	1,535	23	1	1,893
8	26	18	122	12	0	152
7	27	73	186	5	0	264
7	28	63	487	24	0	574
Total	Total	5,769	22,692	1,177	5	29,643

Size of Buildings by Response Zone (in square footage)

Station	Zone	< 1,000	1,001 - 10,000	10,001 - 50,000	> 50,000	Total
1	1	7	136	87	15	245
4	2	264	1,306	20	3	1,593
4	3	73	976	8	1	1,058
5	4	76	2,033	14	1	2,124
1	5	71	196	2	0	269
6	6	159	320	35	5	519
1	7	68	604	32	4	708
2	8	74	316	2	1	393
2	9	270	477	8	3	758
2	10	58	133	3	1	195
6	11	125	516	28	7	676
6	12	532	541	14	3	1090
6	13	44	70	24	6	144
6	14	248	627	22	5	902
6	15	57	101	3	2	163
7	16	34	432	3	0	469
5	17	26	440	1	0	467
7	18	151	1,444	16	6	1,617
7	19	163	474	21	3	661
3	20	105	141	2	0	248
3	21	883	1,796	16	3	2,698
3	22	5	15	14	8	42
3	23	209	309	56	25	599
8	24	119	1,722	19	7	1,867
8	25	137	1,356	19	5	1,517
8	26	28	83	15	4	130
7	27	50	126	10	0	186
7	28	32	449	11	10	502
Total		4,068	17,139	505	128	21,840

Glossary of Terms

Advanced Life Support (ALS): ALS defines a higher level of care provided by Emergency Medical Services (EMS) agencies. ALS care is provided by EMT-Intermediates and EMT-Paramedics and includes all basic life support (BLS) skills, intravenous skills (I.V.), cardiac monitoring, medication administration, manual cardiac defibrillation, intubation, and many other invasive skills.

Alarm: The point at which awareness triggers an effort to notify the emergency response system. An example of this time is the transmittal of a local or central alarm to a designated public safety answering point (PSAP).

Annual Business Plan: Document utilized each fiscal year to set business goals, objectives, action items and major initiatives. This document contains strategic action items from the five-year plan.

Arrival (On-scene) Time: The point at which the first responding unit arrives on scene or the transport unit arrives at the receiving facility. Arrival is determined by actual physical arrival in front of the address or at the address of the emergency as displayed by the CAD.

Basic Life Support (BLS): BLS defines a level of care provided by Emergency Medical Services (EMS) agencies. This level of care is provided by EMT-Basics and includes cardio-pulmonary resuscitation (CPR), basic first aid, splinting, oxygen administration, and use of an automatic external cardiac defibrillator (AED).

Brush Apparatus: A specialized apparatus designed and built to respond to brush and wildland fires. These units are smaller and more maneuverable than standard fire engines, allowing access to off-road and limited-access areas. Brush units are typically mounted on a pick-up or small truck frame, and carry up to 250 gallons of water, a pump, small diameter hose, and a complement of wildland firefighting tools.

Call Processing Time: The interval between the first ring of the 9-1-1 telephone at the dispatch center and the time the dispatcher activates station, company,

and/or individual alerting devices. This interval can also be broken down into two additional sub-intervals: *"call-taker interval,"* which is the time from the first ring of the 9-1-1 telephone until the call-taker subsequently transfers the call information to the dispatcher; and *"dispatcher interval,"* which is the interval from the time when the call-taker transfers the call to the dispatcher until the dispatcher activates all applicable alerting devices for responders.

Cold Zone: The area surrounding an incident that defines where no real or potential danger exists with respect to the safety of the public or harm to the environment.

Community Profile: An analysis of the attributes of the community based on the unique mixture of demographics, socioeconomic factors, occupancy risk, demand zones, and levels of service currently provided.

Community Risk: This is the level of risk that the community is willing to accept by means of Council adoption of the SORC document. By accepting a certain level of risk, the community (or the Council who represents the community) acknowledges and accepts the level of service that PF&R is able to deliver with current resource levels.

Company: A team of firefighters with apparatus assigned to perform a specific function in a designated response area. LF&EMS predominately uses engine companies and ladder truck companies.

Consequence: The risk to human life and the economic impact of an event, including fire, medical, and other events.

Customer Time: See **Total Reflex Time**.

Dispatch Time: The time when the dispatcher, having selected appropriate units for response, initiates the notification of response units.

Emergency Event Awareness: The point at which an individual or technological sentinel (e.g., smoke or heat detector) becomes aware that conditions exist requiring an activation of the emergency response system. This is considered the point of awareness.

En Route Time: The point at which the responding unit signals the dispatch center that they are responding to the call for service or traveling toward the hospital or other appropriate receiving facility. On calls in which a patient is transported, there are two en route times (to the call and then to the medical receiving facility).

Engine: NFPA-designated 'triple combination' pumpers. These are apparatus equipped with a fire pump, hose complement, and water tank. Lynchburg's fire engines are also given a Class-A designation by the Insurance Services Office (ISO). The role of the engine company during fire suppression efforts is to pump water through a variety of fire hose and associated appliances onto the fire in order to lower the temperature of the fuel below its ignition temperature. The units are always staffed with at least three firefighters: one captain, who functions as the lead worker in charge of the company; one master firefighter; and at least one firefighter. As part of this three-person complement, Lynchburg's engines are almost always staffed with at least one paramedic or EMT-Intermediate, allowing each company to operate as both a fire suppression and first response advanced life support (ALS) unit. Under current department policy, some of these resources may be staffed without a paramedic and operated as basic life support units on a day-to-day basis due to staffing limitations.

Event Initiation: The point at which events occur that may ultimately result in an activation of the emergency response system. Precipitating events can occur seconds, minutes, hours, or even days before a point of awareness is reached. It is rarely possible to quantify the point at which event initiation occurs. An example is the patient who ignores chest discomfort for days until it reaches a critical point at which he/she makes the decision to seek assistance.

Field Decontamination: The initial decontamination of civilians and rescue workers at the scene of a hazardous materials incident. It generally consists of removal of contaminated clothing and a shower using water and soap.

Fire Flow: The amount of water, expressed in gallons per minute (GPM) that needs to be applied to a fire in order to absorb the heat released from burning fuels. If the GPM rate meets fire flow for a given fire, the fire will be knocked down, allowing extinguishment.

Fire Information System (FireInfo): Automated system for collecting a myriad of information about incidents, productivity, staffing and other related elements.

Fixed Resources: For fire and emergency services purposes, fixed resources are those that cannot be easily moved to an emergency scene or other incident. Examples include fire stations, maintenance facilities, training facilities, computer information systems, etc.

Flashover: An event that occurs when all the contents of a compartment reach their respective ignition temperatures in a very short period of time, usually seconds. This results in simultaneous ignition of all surface fuels and fire gases within the compartment.

Hazard Assessment: Process whereby the types and number of hazards are identified in occupancies to determine the level of risk that can be expected during mitigation and response efforts.

High-Rise: Any building seven stories, or 75 feet, or taller, or a building whose roof cannot be accessed by an aerial ladder.

Hot Zone: The area immediately surrounding and including an environment that is immediately dangerous to life and health (IDLH).

Initiation of Action: The point at which operations to mitigate the event begin. This may include size-up, resource deployment, etc.

Ladder Trucks: The department currently staffs two types of ladder truck companies. The first type is a 105' straight ladder (no bucket), carried on a single chassis with all-steer capability[1]. The second type is a 100' elevating platform carried on a straight chassis without all-steer capability. The department also utilizes a reserve ladder truck with a 95' straight ladder carried on a tractor-trailer tillered aerial apparatus chassis. The role of the truck company during fire suppression efforts it to provide forcible entry; vertical and positive pressure ventilation, which aids in fire suppression efforts conducted by the engine companies; search and rescue; salvage and overhaul; elevated work above ground

[1] "All-steer" meaning all wheels can be turned for optimum maneuverability.

level on ladders; and/or elevated master streams for defensive firefighting operations.

LynCom: LynCom is the public safety answering point (PSAP) for the fire department. It is a centralized PSAP for the fire and police departments, but is a division of the police department.

Master Stream: A large volume fire stream delivering more than 350 gallons per minute. Master stream nozzles are usually mounted to a fire apparatus or placed on the ground, and are supplied by multiple 2 ½" or 3" hoselines.

Medic Units (Ambulances): The department currently deploys four 24-hour dual-role (firefighter/paramedic) Type I medium-duty ambulances normally staffed with at least one Paramedic/EMT-Intermediate and one EMT-Basic certified personnel. In addition, the department operates a single-role (non-firefighter EMT/paramedic) Type I ambulances staffed with at least two EMT-Basics during the city's "normal weekday business hours" of 8:00am and 5:00pm for the purpose of responding to *transport only*-type calls for service. All of Lynchburg's medic units carry a full complement of advanced life support equipment, and are licensed by the Commonwealth of Virginia as ALS ambulances. The primary role of the medic unit in LF&EMS' system is the treatment and transport of the sick and injured within the City of Lynchburg. Personnel assigned to staff dual-role medic units are also qualified and able to function as firefighters, which helps augment Lynchburg's overall firefighting force. Lynchburg also has three additional medic units that are in reserve status. These units can be staffed on an as-needed basis by engine company firefighters when determined necessary by the shift battalion chief.

Mobile Resources: For fire and emergency services purposes, mobile resources are those items that can easily respond to emergency or other incidents as the need arises. Examples include fire engines, ladder trucks, rescue units, air units, maintenance units, and all related or assigned equipment. Mobile resources also refer to the personnel assigned to these responding units.

Mobile Data Computer (MDC): An electronic device mounted in an emergency response vehicle that allows the operator to query the computer-aided dispatch (CAD) computer and receive critical and non-critical incident or location

information. Portland Fire & Rescue uses the latest generation of MDCs, which are actually vehicle-based computers. In addition to receiving information, these computers can store and retrieve mapping, pre-fire, and related information.

National Fire Protection Association (NFPA): The National Fire Protection Association develops and publishes fire and life safety consensus standards, some of which address fire department organization, procedures, and activities.

Notification: The point at which an alarm is received by the PSAP. This transmittal may take the form of an electronic or mechanical notification process to the point at which a call is received and answered within the PSAP.

Occupancy Risk: An assessment of the relative risk to life and property resulting from a fire inherent in a specific occupancy or in a generic occupancy class.

Occupancy Vulnerability Assessment Profile (OVAP): As part of the risk assessment of commercial occupancies, a variety of information is collected and a score is assigned to each occupancy. The score determines the risk category for that particular occupancy (maximum, significant, moderate, minor).

Operational Guidelines: Policies that guide decision making in all areas of emergency operations and response.

Probability: An estimate of the likelihood that a particular event will occur within a given period of time.

Rescue: The department currently staffs a heavy rescue unit, assigned to Station 3 (Fort Hill). The rescue is staffed by a master firefighter and two other firefighters. The firefighters assigned to *Rescue 1* are a minimum of EMT-Basic certified. At least one is trained as a technical rescue specialist and at least one is trained as a hazardous materials technician. The rescue is staff primarily responsible for performing extrication at motor vehicle crashes, search and rescue at fire scenes, and supplementing the technical rescue and hazardous materials specialty teams.

Response Zones: Irregularly shaped zones utilized for dispatch determinations; LF&EMS has 28 response zones. The computer aided dispatch system (CAD) uses response zones to recommend apparatus to respond to events occurring

within each district. They are developed based on neighborhood configuration, traffic flow patterns, closest fire stations, and a variety of other considerations. District boundaries may change from time to time based on changes in street networks, station locations, etc.

Response Time: Defined as the time from dispatch to arrival on-scene; includes both turnout and travel time – the elements of responding to an incident that are directly under the control of the LF&EMS.

Recon: A shortened form of the word "reconnaissance", which is a survey or examination that seeks out critical information.

Size-up: A fire service term that describes the continuous fact gathering process that dictates a course of action at an incident scene.

Termination of Incident: The point at which the designated incident commander notifies LynCom that the assignment has been completed and the units assigned are either out of service, or are available to respond to other requests for service.

Total Reflex Time (Customer Time): This measure is an indicator of the performance of the emergency service system, whether or not the fire department directly controls those elements. This interval adds the call processing interval to the response time interval. This is also referred to as the "customer time," because this is the total amount of time the customer is waiting for the emergency responders to arrive at the scene.

Travel Time: The interval that begins at the termination of the en route notification and ends when the responding unit notifies the dispatcher that it has arrived on scene.

Turnout Time: The interval between the activation of station and/or company alerting devices (plus the delivery of specific dispatch information to emergency personnel), and the time when the responding crew(s) notifies the dispatch center that the company is en route. During the turnout interval, crews immediately cease all other activities, don appropriate protective clothing, determine the location of the call, board and start the appropriate response vehicle. The en route

notification to dispatch is typically made when all personnel are aboard the apparatus, and the vehicle is traveling toward the call location. The established benchmark for an acceptable turnout interval is 60 seconds.

Warm Zone: The designated area where some potential or real danger exists with respect to safety and health of the public, and harm to the environment.

Water Tanker: The department deploys one 2,000-gallon water tank truck which is utilized for Lynchburg's non-hydranted responses and other incidents where water resources are limited. These resources may be deployed for structure fires, natural cover fires, or aircraft emergency responses at the Lynchburg Regional Airport. Lynchburg's tanker is deployed from Station 8 (Old Graves Mill Road) and is staffed by the engine company crews at that location based on call type. Like the brush trucks, water tanker has a limited but very important application and receives less use than front-line engines.

Wildland Urban Interface: The geographic areas where homes and businesses blend with forested or wooded areas, presenting significant fire control problems for fire departments. These problems include restricted or steep access, dense fuels that may be subject to dryness, limited water supply, and wind-pushed fire spread.